Avenview

AV Connectivity, Distribution And Beyond...

VIDEO WALLS VIDEO PROCESSORS
VIDEO MATRIX SWITCHES
EXTENDERS SPLITTERS WIRELESS
CABLES & ACCESSORIES

HDBaseT HDMI Wall Plate Transmitter IR/RS232/POE 100M

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HDMI | IR | RS-232 | POWER | RoHS Compliant | FC CE

Model #: HBT-C6POEWP-S

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Product Application & Market Sectors

Corporate

House Of Worship

Military

Residential

Education

Industrial

Medical

Aviation

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SECTION 1: GETTING STARTED

1.1 IMPORTANT SAFEGUARDS

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
- Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
- Repair or attempted repair by anyone not authorized by us.
- Any damage of the product due to shipment.
- Removal or installation of the product.
- External causes to the product, such as electric power fluctuation or failure.
- Use of supplies or parts not meeting our specifications.
- Normal wear and tear.
- Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

1.2 SAFETY INSTRUCTIONS

The HBT-C6POEWP-S HDBaseT HDMI Wall plate Transmitter has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the HBT-C6POEWP-S should be used with care. Read the following safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

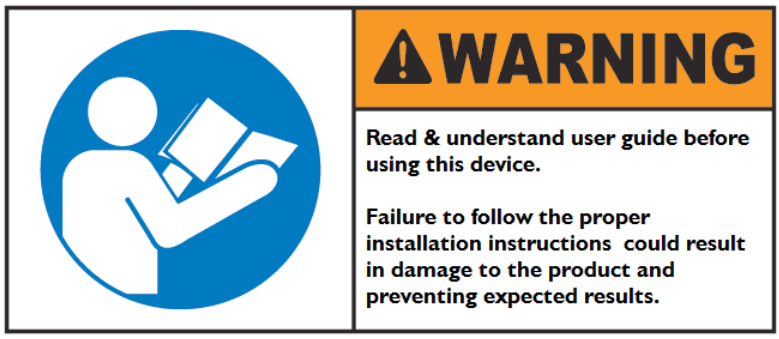
- ⚠ Do not dismantle the housing or modify the module.
- ⚠ Dismantling the housing or modifying the module may result in electrical shock or burn.
- ⚠ Refer all servicing to qualified service personnel.
- ⚠ Do not attempt to service this product yourself as opening or removing housing may expose you to dangerous voltage or other hazards
- ⚠ Keep the module away from liquids.
- ⚠ Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- ⚠ Have the module checked by a qualified service engineer before using it again.
- ⚠ Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

1.3 REGULATORY NOTICES FEDERAL COMMUNICATIONS COMMISSION (FCC)

This equipment has been tested and found to comply with Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

Warning symbols	Description
	ONLY USE THE PROVIDED POWER CABLE OR POWER ADAPTER SUPPLIED. DO NOT TAMPER WITH THE ELECTRICAL PARTS. THIS MAY RESULT IN ELECTRICAL SHOCK OR BURN.
	DO NOT TAMPER WITH THE UNIT. DOING SO WILL VOID THE WARRANTY AND CONTINUED USE OF THE PRODUCT.
	THE VIDEO BOARDS ARE VERY SENSITIVE TO STATIC. PLEASE ENSURE IF RACK MOUNTED OR INSTALLED ON A SURFACE, IT SHOULD BE IN A GROUNDED ENVIROMENT.


WARNING
Read & understand user guide before using this device.
Failure to follow the proper installation instructions could result in damage to the product and preventing expected results.

2. INTRODUCTION

The Avenview HBT-C6POEWP-S HDBaseT HDMI wall plate transmitter was developed to simplify the install and also create a clean seamless look with the decor. Transmission of HDMI signal over Single CAT5e/6 of uncompressed audio/video, data control through the built-in RS-232 and IR ports. No need to power the receiving unit because the TX wall plate supplies Power on Ethernet (PoE) over the CAT5/6 to the HBT-C6POEWP-R Receiver wall plate extending all signals up to 100m to the display screen. With this unique wall plate design integration within your solution has never been this simple.

Video Signals - Supports Full HD 1080p up to 3D, 2K (2160 x 1440), UHD (3840 x 2160)

Audio Signals - Pass-through up to LPCM 7.1CH, Dolby TrueHD, and DTS-HD Master Audio

Data Signals - RS-232 and bi directional IR IN and IR OUT ports

The HBT-C6POEWP-S includes one unit: A 2 Gang Wall plate HDBaseT HDMI Transmitter with one (1) HDMI Input and one (1) HDBaseT RJ45 module Output.

- HDMI 1.4 with 3D, 4k x 2k support, HDCP & DVI Compliant
- HDCP repeater and CEC bypass
- Transmit uncompressed data signals over a single CAT6 or CAT5e cable Up to 100M/328ft
- Video: Uncompressed video 1080p, 60Hz, 36bits
- Audio up to 7.1CH & Dolby TrueHD, DTS-HD
- HDBaseT 4Play™ convergence: HDMI, POE & Control (IR & RS232)

This system was tested with CAT6A (625MHz), 4-Pair, U/UTP-Unshielded cable, so if using Category cables of another type, results may vary.

- *The PoE function is designed for powering compatible Receiver units only. The non-PoE Receivers has to be powered with a power supply. Receivers (Rx) from different manufactures would not be compatible. Displaying HDMI 4Kx2K resolution would require the standard 4Kx2K HDMI cable and display for accurate results.*

2.1 PACKAGE CONTENTS

Before you start the installation of the HDMI Extender, please check the package contents.

1	HDM-C6VWIP-SET X 1 X 1	
2	IR EXTENDER	
	IR BLASTER	
	3.5 TO RS-232 FEMALE CABLE	
	3.5 TO RS-232 MALE CABLE	
	POWER ADAPTER24/1.25A	
	USER'S MANUAL	

2.2 BEFORE INSTALLATION

- Put the product in a level and stable location. If the product falls, it may cause damage or malfunction to components within the casing.
- Do not place the product in temperatures under 0°C or over 50°C. High humidity may also cause the unit to malfunction.
- Use the DC power adapter with correct specifications supplied with the unit. If the improper power supply is used, this may result in malfunction of the unit and may cause fire.
- Do not twist or pull by force the ends of the UTP cable. It will cause malfunction.

2.3 CABLE SPECIFICATIONS

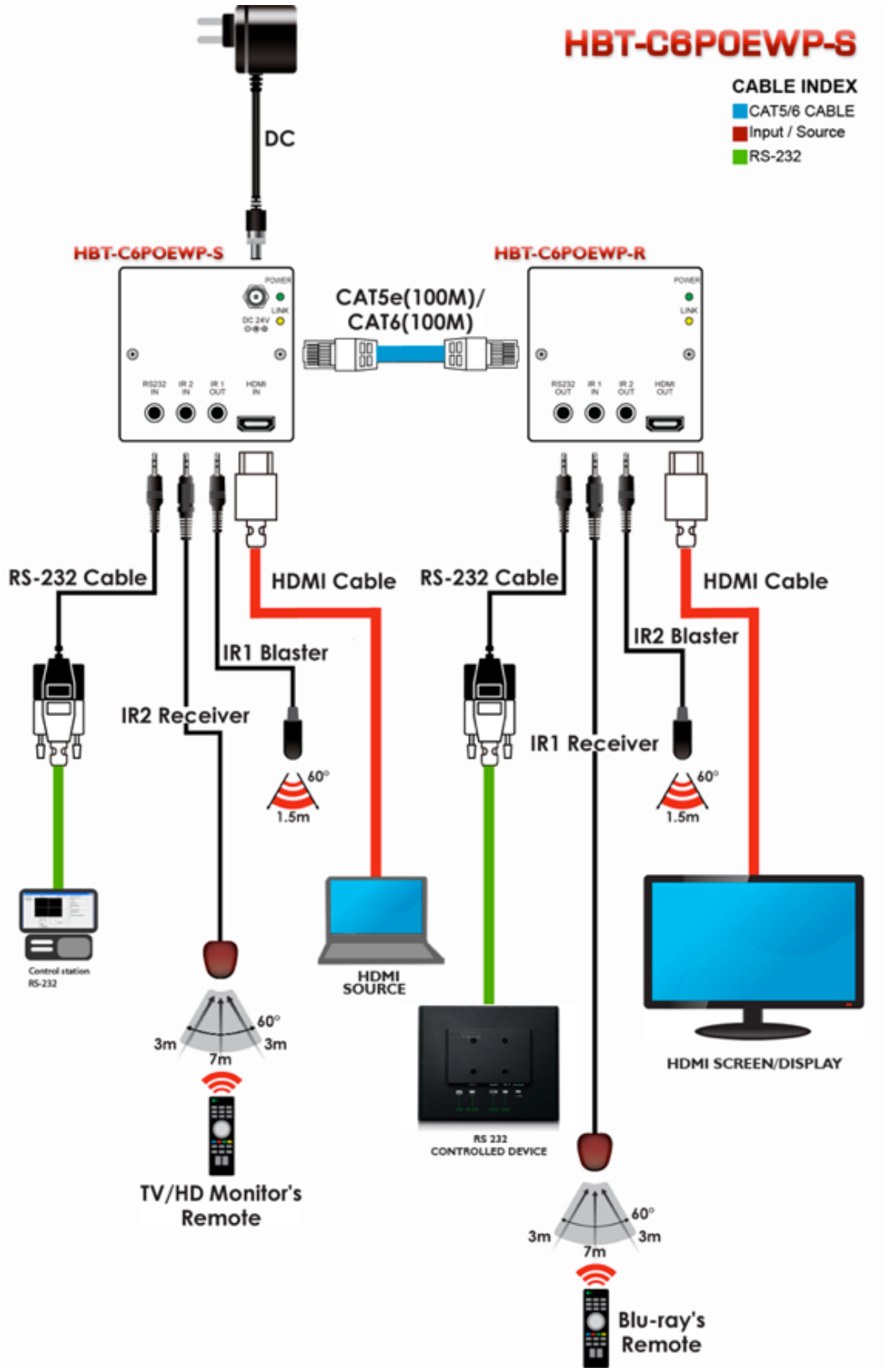
ULTRA HD
4K RESOLUTION

We highly recommend achieving best results with our HBT-C6POEWP-S you acquire a high quality 26 or 24 AWG HDMI cable with the below specifications to maintain signal integrity and distances.

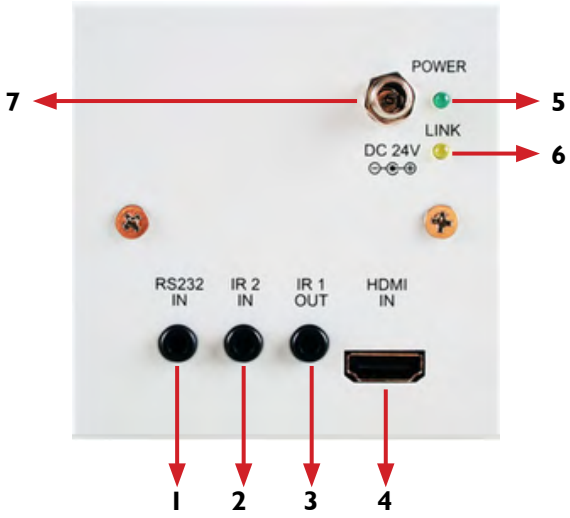
Features

- Length: 5m (16ft) to 15m (50ft)
- Bandwidth: 10.2 Gbps data transfer rate
- Supports Resolution: Up to 3840x2160 @ 24Hz and 4096x2160 @ 24Hz, 1080p @ 24Hz / 50/60Hz/3D
- Conductor gauge: 26 / 24 AWG
- Deep Color
- 3D Capable
- CEC
- Ethernet Channel
- Audio Return Channel
- Connector 1: HDMI (Type A) Male
- Connector 2: HDMI (Type A) Male

2.4 APPLICATION DIAGRAM



2.5.1 INPUT PANEL (HBT-C6POEWP-S) Front Panel



1.	RS-232 IN: Connect using the 3.5mm jack to RS232 Cable to devices that sends RS232 Commands
2.	IR 2 IN: Connect the IR Receiver cable included to receive IR Signal.
3.	IR 1 OUT: Connect the IR blaster cable included to transmit IR Signal
4.	HDMI IN: Connect with HDMI male cable to input source audio/video signal.
5.	Power LED: Green LED will illuminate when the supplied power supply is attached.
6.	LINK LED: Yellow LED will illuminate when input and output signal is detected over the CAT5/6 cable when attached
7.	DC 24V: Secured 24VDC Terminal to attach the supplied power adapter

2.5.2 INPUT PANEL (HBT-C6POEWP-S) Rear Panel

8.	CAT5/6 OUT: Connect to a compatible Receiver unit to transmit all signals

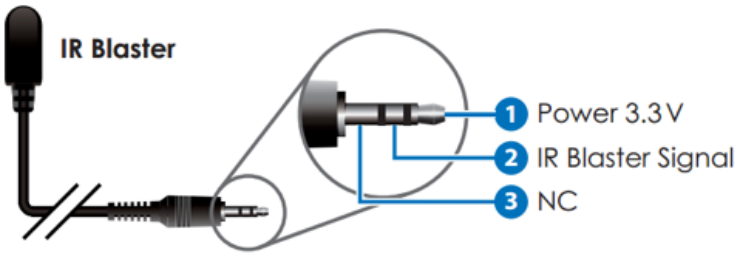
3. INSTALLATION (HBT-C6POEWP-S)

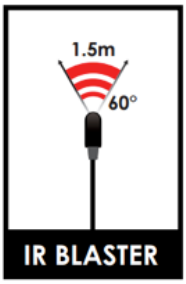
To setup Avenview HBT-C6POEWP-S please follow these steps for connecting to a device:

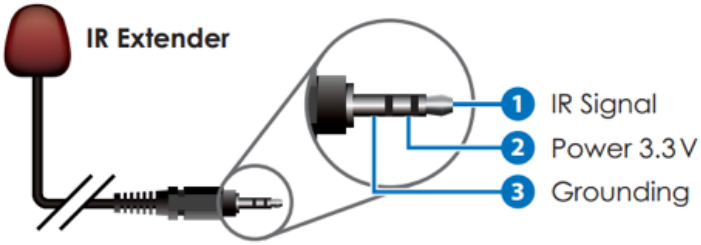
1. Power off sources such as using Laptop/PC DVD player at Podium or where installed.
2. Connect HDMI video Source to the HDMI INPUT- up to with Full HD, 3D and 4k x 2k support
3. Connect CAT 5/6 OUT to a compatible HBT-C6POEWP-R (Rx) CAT 5/6 IN and HDMI cable to HDMI Displays
4. Plug in 24V/1.25A DC power adapter to the screw terminal HBT-C6POEWP-S- Green LED illuminate
5. Power on HDMI Source and HDMI Display
6. When the Input is connected and turned on the corresponding Yellow LED will light on the LINK LED when signal is detected and transmitting.

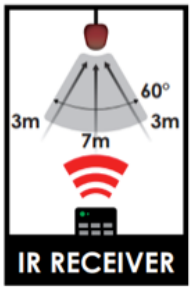
Attaching the Wall Plate Transmitter to a Drywall or Commercial New Construction

4. IR CABLE DEFINITION









IR Sockets

IR BLASTER: plug in the IR blaster to the HBT-C6POE-R to emit all IR command signals received from the IR Extender plugged into the Rx (Monitor Side) to control the devices corresponding to the IR signals. Example: Set Top Box or DVD player (The Source).

IR EXTENDER: plug in the IR Extender into the (RX) Receiver (Monitor Side) to receive all IR command signals from the IR remote controls of the corresponding source.

Example: Set Top Box or DVD player (IR Remote Control).

WARNING

NOTE: Incorrect placement of IR Blaster and IR Extender into the extender may result in the failure of the IR extenders.

Please check carefully before plugging in the IR extender to the respective IR sockets.

It is clearly marked and **IR IN: IR EXTENDER /IR OUT: IR BLASTER**

WARRANTY WILL NOT COVER THE DAMAGE.

5. GENERAL TROUBLESHOOTING

PROBLEM	POSSIBLE SOLUTION
NO IMAGE	• Check if connection to the source and the display are correct. • Ensure that display device supports 480p, 720p and 1080p 4K@30 resolution • Terminated to 568B standard with Shielded Ends Recommended • High Quality CAT5/6/7 Cable helps signal transmission • Please use the supplied power supply-DC 24V 2.7A • Check LED Link light see (Section 3 Panel Description) • Check LED Sync light see (Section 3 Panel Description)
EDID ISSUE	• EDID MODE-: The unit will detect the 1st CAT5e/6/7 output's EDID. When obtained a (4K2K) Ultra HD 3840x2160 EDID the signal is transmitted. • If the 1st CAT5e/6/7 output is without a Ultra HD 3840x2160 EDID the unit will detect all output's EDID and Transmit the signal that all outputs can accept.
SET-TOP BOX NO PICTURE	• HDBaseT and HDMI 1.3 standards support CLOCK STRETCHING for i2c buss protocol • Example set top boxes like Scientific Atlantic results no picture. This can be resolved by swapping out the box for a newer version that supports HDMI 1.3 not HDMI 1.2
NO INFRARED COMMUNICATION	• Ensure the UTP cable is run within the wall away from EMI and High Voltage power Lines. • Please check manual of device to ensure proper placement of IR Blaster on IR EYE. • Some LED /Plasma TV have EMI interference with the IR Extender, please place the IR Rx 3-6" away from Screen
RECOMMENDED TEST	
END-TO-END TESTING	HDBaseT system, a final end-to-end test of all the A/V components should take place. These tests include checking the HDMI stream at the far end (sink end), the clock rate, frame compare, video pattern, audio, EDID and HDCP with Quantum 780 (recommended)
PASSIVE MONITORING:	Passive monitoring enables an integrator to view the HDCP transactions, EDID exchange, as well as the connection events between the actual devices in the network.

Note:

Addional info on Guidelines to Test & Troubleshoot HDBaseT Systems

Can be retreived from our website under the category Downloads for this product HBT-C6POEWP-S

6. SPECIFICATIONS

Item	Description
UNITS	HBT-C6POEWP-S
UNIT DESCRIPTION	HDBaseT HDMI Wall Plate Transmitter
HDMI COMPLIANCE	YES HDBaseT
HDCP	Yes
VIDEO BANDWIDTH	Single-link 300MHz [9Gbps]
SUPPORTED RESOLUTIONS	480i / 480p / 720p / 1080i / 1080p60 / 4K@30 Up to Ultra HD (3840x2160@24/25/30Hz) 4K2K-(4096x2160@24Hz)
CEC SUPPORT	ALLOWS CEC BYPASS
CAT5/6/7 CABLE	4K2K: (3840X2160@30Hz) ~ 75meter (250feet) (CAT6e) / 100meter (330feet) (CAT6a) FULL HD: (1080p) ~ 100meter (330feet) (CAT6e) /110meter (360feet) (CAT6a)
AUDIO SUPPORT	LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio
INPUT TMDS SIGNAL	1.2 Volts (peak-to-peak)
INPUT DDC SIGNAL	5 Volts (peak-to-peak, TTL)
ESD PROTECTION	Human body model — ±8kV (air-gap discharge) & ±4kV (contact discharge)
INPUT	1x 3.5mm IR Extender 1x 3.5mm RS232 1x HDMI
OUTPUT	1x CAT5/6 1x 3.5mm IR
HDMI CONNECTOR	Type A (19 pin female)
LED	GREEN/YELLOW LED
IR FREQUENCY	30~50kHz
DIMENSIONS (L X W X H)	3.4" x 3.8" x 1.2" 87 mm (L)×97mm (W)×31 mm (H)
WEIGHT	0.4lbs 200g
POWER SUPPLY	24V / 1.25A DC (US/EU standards, CE/FCC/UL certified)
POWER CONSUMPTION	3 Watt (max)

ENVIRONMENTAL

OPERATING TEMPERATURE	32° ~ 104°F (0° to 40°C)
STORAGE TEMPERATURE	-4° ~ 140°F (-20° ~ 60°C)
RELATIVE HUMIDITY	20~90% RH (non-condensing)

NOTICE

1. *All HDMI over CATx transmission distances are measured using Belden CAT6A (625MHz), 4-Pair,UTP-Unshielded, Riser-CMR, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyolefin Insulation, Patented Double-H spline, Ripcord, PVC Jacket using Quantum 980 signal HDMI Video Generator Module with Video Pattern Testing and shielded ends.*

2. *The transmission length is largely affected by the type of category cables, also the type of HDMI sources, and the type of HDMI display. The testing result shows solid UTP cables (usually in the form of 300m or 1000ft bulk cable) can transmit a lot longer signals than stranded UTP cables (usually in the form of patch cords). Shielded STP connectors are better suit than unshielded UTP connectors. A solid UTP CAT6A cable shows longer transmission length than solid UTP CAT5E/6E cable.*

3. *EIA/TIA-568-B termination (T568B) for category cables is recommended.*

4. *To reduce the interference among the unshielded twisted pairs of wires in category cable, you can use shielded STP cables with shielded connector to improve EMI problems, which occurs in poor wiring environments with unplanned cable runs situated away from EMI interference.*

5. *Because the quality of the category cables has the major effects in how long transmission distance will be made and how good is the received signal on the display, the actual transmission length is subject to high quality category cables. For resolution greater than 1080i or 1280x1024, a solid CAT6E 250MHz cable is the only viable choice.*

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